

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1 – 10. (Cancelled)

11. (new): Method for cooling a moving metal strip, of the type in which:

- the metal strip to be cooled is moved in a continuous manner,
- the strip is pressed onto a main cooling roller which can be moved about the axis thereof so that the strip forms an arc whose inner face delimits with the outer face of the main cooling roller a contact zone which is suitable for discharging part of the heat of the strip towards the inner side of this roller, and
- the strip is held in contact with the main cooling roller by means of at least one support roller on the outer face of the arc formed by the strip, the or each support roller being arranged substantially parallel with the main cooling roller and so as to be movable in terms of rotation about the axis thereof,

wherein the or each support roller is constituted, at least at the periphery, by a resiliently deformable and thermo-capacitive material, and wherein the heat transmitted from the strip to the or each support roller is discharged by secondary cooling means which are suitable for forming, with a portion of the outer face of the or each support roller, a zone for transferring heat towards these secondary cooling means.

12. (new): Method according to claim 11, wherein the or each support roller extends at least over the entire width of the strip so as to apply to the outer face of the arc formed by the strip a pressure which is substantially homogeneous over this entire width.

13. (new): Method according to claim 11, wherein the temperature of the strip pressed at the inlet of the main cooling roller is lower than the degradation temperature of the material which constitutes the support roller(s).

14. (new): Method according to claim 13, wherein the temperature of the strip pressed at the inlet is lower than approximately 200°C.

15. (new): Assembly for cooling a moving metal strip, the strip to be cooled being moved in a continuous manner, of the type comprising a main cooling roller, onto which the strip is pressed so as to form an arc whose inner face delimits, with the outer face of this roller, a contact zone which is suitable for discharging part of the heat of the strip towards the inner side of the main cooling roller, and at least one support roller on the outer face of the arc formed by the strip, which roller is suitable for holding the strip in contact with the main cooling roller, the or each support roller being arranged substantially parallel with the main cooling roller and so as to be movable in terms of rotation about the axis thereof, wherein the or each support roller is constituted, at least at the periphery, by a resiliently deformable and thermo-capacitive material, and wherein the assembly comprises secondary cooling means which are suitable for forming,

with a portion of the outer face of the or each support roller, a zone for transferring heat towards these secondary cooling means in order to discharge the heat transmitted from the strip to the or each support roller.

16. (new): Assembly according to claim 15, wherein the or each support roller is produced, at least at the periphery, from elastomer material, in particular from vulcanised silicone.

17. (new): Assembly according to claim 15, wherein the material from which at least the periphery of the or each support roller is constituted has a thermal conductivity coefficient of less than 1 W/m.K.

18. (new): Assembly according to claim 15, wherein the diameter of the or each support roller is between approximately a quarter and a tenth of the diameter of the main cooling roller.

19. (new): Assembly according to claim 15, wherein the secondary cooling means comprise at least one secondary cooling roller which is movable in terms of rotation about the axis thereof and which is arranged substantially parallel with the support roller(s).

20. (new): Assembly according to claim 15, wherein the assembly comprises means for being supplied with a heat-exchanging fluid, which means are common to the main cooling roller and to the secondary cooling means.